STATUS OF THE CLAIMS

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Previously Presented) A method of noninvasively focusing acoustical energy on a mass within a substance to reduce or eliminate said mass, comprising the steps of:

detecting the presence of said mass in said substance by applying acoustic energy to said substance,

localizing said mass to determine its position within said substance,

developing temporal signatures to drive said acoustical energy on said mass, and

dynamic focusing said acoustical energy on said mass in said substance utilizing said temporal signatures to reduce or eliminate said mass, wherein said step of dynamic focusing said acoustical energy on said mass utilizes time reversal eigen-decomposition.

5. (Previously Presented) The method of noninvasively focusing acoustical energy on a mass of claim 4 wherein said step of developing temporal signatures to drive said acoustical energy on said mass includes a step of acquiring multistatic data matrix using sets of orthogonal weights to increase signal-to-noise ratio.

6. (Previously Presented) The method of noninvasively focusing acoustical energy on a mass of claim 4 wherein said step of dynamic focusing said acoustical energy on said mass utilizes time reversal eigen-decomposition includes selecting eigen-weights and said eigen-weights are selected so that corresponding singular values fit a desired pattern.

7. (Previously Presented) The method of noninvasively focusing acoustical energy on a mass of claim 4 wherein said step of dynamic focusing said acoustical energy on said mass utilizes time reversal eigen-decomposition includes selecting eigen-weights and said eigen-weights are selected to minimize the error with a given reference.

8. (Previously Presented) The method of noninvasively focusing acoustical energy on a mass of claim 7 wherein said reference is calculated using a simple propagation model.

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Previously Presented) A method of treating tissue by noninvasively focusing acoustical energy on a mass within said tissue to reduce or eliminate said mass, comprising the steps of:

detecting the presence of said mass in said tissue by applying acoustic energy to said tissue,

localizing said mass to determine its position within said tissue,

developing temporal signatures to drive said acoustical energy on said mass, and

dynamic focusing said acoustical energy on said mass in said tissue utilizing said temporal signatures to reduce or eliminate said mass wherein said step of dynamic focusing said acoustical energy on said mass utilizes time reversal eigen-decomposition.

22. (Previously Presented) The method of treating tissue of claim 21 wherein said step of developing temporal signatures to drive said acoustical energy on said mass includes a step of acquiring multistatic data matrix that uses sets of orthogonal weights to increase signal-to-noise ratio.

23. (Previously Presented) The method of treating tissue of claim 21 wherein said step of dynamic focusing said acoustical energy on said mass utilizes time reversal eigen-decomposition includes selecting eigen-weights and said eigen-weights are selected so that corresponding singular values fit a desired pattern.

24. (Previously Presented) The method of treating tissue of claim 21 wherein said step of dynamic focusing said acoustical energy on said mass utilizes time reversal eigen-decomposition includes selecting eigen-weights and wherein said eigen-weights are selected to minimize the error with a given reference.

25. (Previously Presented) The method of treating tissue of claim 24 wherein said reference is calculated using a simple propagation model.

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)

32. (Cancelled)

33. (Cancelled)

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Previously Presented) A system of noninvasively focusing acoustical energy on a mass in a substance to reduce or eliminate said mass, comprising:

means for applying acoustic energy to said substance for detecting said mass,

means for localizing said mass,

means for developing temporal signatures for driving said acoustical energy, and

means for dynamic focusing said acoustical energy through said substance on said mass to reduce or eliminate said mass wherein of means for dynamic focusing said acoustical energy on said mass utilizes time reversal eigen-decomposition.

42. (Previously Presented) The system of noninvasively focusing acoustical energy on a mass of claim 41 wherein said means for developing temporal signatures for driving said acoustical energy includes means for acquiring a multistatic data matrix that uses sets of orthogonal weights to increase signal-to-noise ratio.

43. (Previously Presented) The system of noninvasively focusing acoustical energy on a mass of claim 41 wherein said time reversal eigen-decomposition includes eigen-weights selected so that corresponding singular values fit a desired pattern.

44. (Previously Presented) The system of noninvasively focusing acoustical energy on a mass of claim 41 wherein said time reversal eigen-decomposition includes eigen-weights and wherein said eigen-weights are selected to minimize the error with a given reference.

45. (Previously Presented) The system of noninvasively focusing acoustical energy on a mass of claim 44 wherein said reference is calculated using a simple propagation model.

46. (Cancelled)

47. (Cancelled)

48. (Cancelled)

49. (Cancelled)

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51. (Cancelled)

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54. (Cancelled)

55. (Cancelled)

56. (Cancelled)

57. (Cancelled)

58. (Cancelled)

59. (Cancelled)

60. (Cancelled)

61. (Previously Presented) A system of treating tissue by treating tissue within said tissue to reduce or eliminate said mass, comprising:

means for applying acoustic energy to said substance for detecting said mass,

means for localizing said mass,

means for developing temporal signatures for driving said acoustical energy, and

means for dynamic focusing said acoustical energy through said substance on said mass to reduce or eliminate said mass wherein said means for dynamic focusing said acoustical energy on said mass utilizes time reversal eigen-decomposition.

62. (Previously Presented) The system of treating tissue of claim 61 wherein said means for developing temporal signatures for driving said acoustical energy includes means for acquiring a multistatic data matrix that uses sets of orthogonal weights to increase signal-to-noise ratio.

63. (Previously Presented) The system of treating tissue of claim 61 wherein said time reversal eigen-decomposition includes eigen-weights and said eigen-weights are selected so that corresponding singular values fit a desired pattern.

64. (Previously Presented) The system of treating tissue of claim 61 wherein said time reversal eigen-decomposition includes eigen-weights and said eigen-weights are selected to minimize the error with a given reference.

65. (Previously Presented) The system of treating tissue of claim 64 wherein said reference is calculated using a simple propagation model.

66. (Cancelled)

67. (Cancelled)

68. (Cancelled)

69. (Cancelled)

70. (Cancelled)

71. (Cancelled)

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92. (Cancelled)

93. (Cancelled)

94. (Cancelled)